Table A1: One hour average concentrations at monitoring locations in Slave Lake and area

Site	Date	Start Time	CO PPM	O_3 PPM	THC PPM	CH_4 PPM	RHC PPM	SO_2 PPM	NO PPM	NO_2 PPM	NO_x PPM	NH_3 PPM	TRS PPM	H_2S PPM	TSP $\mu g/m^3$	PM_{10} $\mu g/m^3$	$PM_{2.5}$ $\mu g/m^3$	PAH ng/m^3
1	12/20/05	13:49	0.5	0.004	2.6	2.5	0.1	bd	0.018	0.014	0.032	0.002	0.001	0.001	38	23	7	15
1	12/20/05	14:49	0.2	0.003	2.4	2.4	bd	bd	0.008	0.010	0.018	bd	0.001	bd	12	10	5	5
1	12/20/05	15:49	0.2	0.001	2.4	2.4	bd	bd	0.008	0.012	0.020	bd	0.002	bd	16	12	5	9
1	12/21/05	8:42	0.8	0.001	2.8	2.8	0.1	0.001	0.064	0.017	0.080	0.004	0.002	bd	18	13	6	19
1	12/21/05	9:42	0.6	0.002	2.8	2.8	bd	0.001	0.044	0.012	0.056	0.003	0.002	bd	38	16	5	11
1	3/14/06	17:31	0.2	0.045	1.9	1.9	bd	0.001	0.004	0.006	0.011	bd	bd	bd	8	6	3	3
1	3/14/06	18:31	0.2	0.046	1.9	2.0	bd	0.001	0.002	0.004	0.007	bd	bd	bd	4	4	2	3
3	12/20/05	17:10	0.2	bd	2.4	2.4	bd	bd	0.005	0.013	0.018	bd	0.001	bd	11	9	5	3
3	12/20/05	18:10	0.2	bd	2.4	2.5	bd	bd	0.006	0.012	0.018	bd	0.001	bd	29	18	7	14
3	12/20/05	19:10	0.4	bd	2.4	2.5	bd	bd	0.011	0.013	0.024	bd	0.001	bd	46	30	12	32
3	12/21/05	11:12	0.8	0.003	3.0	2.9	0.1	bd	0.030	0.013	0.042	0.008	0.001	bd	26	17	4	14
4	12/21/05	11:51	0.5	0.002	6.1	3.6	2.4	bd	0.047	0.008	0.055	0.008	0.002	0.002	68	31	5	8
4	3/14/06	15:29	0.3	0.041	2.0	2.0	bd	0.001	0.013	0.014	0.028	bd	0.001	bd	ND	ND	ND	7
4	3/14/06	16:29	0.2	0.042	2.0	2.0	bd	0.001	0.007	0.008	0.016	bd	0.001	bd	ND	ND	ND	4
4	3/15/06	12:00	0.1	0.038	2.2	2.2	0.1	0.006	0.015	0.007	0.020	0.003	0.001	0.001	6	4	2	1
4	3/15/06	13:00	0.1	0.038	2.6	2.4	0.1	0.005	0.011	0.008	0.018	0.007	0.001	0.001	6	4	2	bd
5	12/21/05	12:57	0.8	0.003	3.1	3.1	bd	0.001	0.029	0.011	0.040	0.011	0.001	0.001	86	39	6	9

Notes:

Site 1: town of Slave Lake **Site 3:Entrance to Mitsue industrial park** **Site 4: Acclaim gas plant** **Site 5: Alberta Plywood**

ppm - parts per million **$\mu g/m^3$** = micrograms per cubic metre **ng/m^3** = nanograms per cubic metre

bd – below detection limit of analyzer (Table B2 in the Appendix B) **ND**– no data available

Table A2: Meteorological conditions and MAML operator comments

Site	Date	Start Time	Comments	Temp °C	RH %	WSP KPH	WDR
1	12/20/05	13:49	6th ave and main street	-8.7	93.5	5.9	ESE
1	12/20/05	14:49	7th ave and main street	-8.9	95.5	7.6	ESE
1	12/20/05	15:49	8th ave and main street	-9.0	96.2	7.7	E
1	12/21/05	8:42	8th ave and main street	-8.6	96.9	2.1	SSE
1	12/21/05	9:42	Smoky haze in entire area	-5.6	83.5	1.9	SE
1	3/14/06	17:31	At 14Ave west of Main St. not too much smoke in town	-3.2	80.6	14.9	ESE
1	3/14/06	18:31	At 14Ave west of Main St. not too much smoke in town	-4.7	64.1	14.8	SE
3	12/20/05	17:10	West end of industrial area	-9.9	97.1	11.0	E
3	12/20/05	18:10	West end of industrial area	-9.7	97.5	14.8	ESE
3	12/20/05	19:10	West end of industrial area	-9.0	97.7	18.2	ESE
3	12/21/05	11:12	Vanderwell Contractors	-2.7	79.6	3.0	SSE
4	12/21/05	11:51	Odours evident	0.4	66.6	2.9	SW
4	3/14/06	15:29	Downwind of Acclaim flare and Vanderwell Mill - Smokey in immediate area	-1.6	56.0	22.6	ESE
4	3/14/06	16:29	Downwind of Acclaim flare and Vanderwell Mill - Smokey in immediate area	-2.5	57.0	22.2	ESE
4	3/15/06	12:00	Some haze in the area, SO_2 odour evident	-5.5	60.0	14.1	SE
4	3/15/06	13:00	Some haze in the area, SO_2 odour evident	-3.8	54.7	12.5	SE
5	12/21/05	12:57	800m east of Teepee burner	4.2	63.3	2.3	WSW

Notes:
Site 1: town of Slave Lake **Site 3:Entrance to Mitsue industrial park** **Site 4: Acclaim gas plant** **Site 5: Alberta Plywood**
Temp ° C- Temperature in degrees centigrade **RH %** – Relative humidity in percentage **WSP KPH** – Wind speed in Km/hr **WDR** – Wind direction

Table A3: Median one-hour average concentrations for selected MAML surveys and permanent monitoring stations.

Station or Survey Type	Air Quality Station or Survey Name	Monitoring Period	CO ppm	O_3 ppm	THC ppm	CH_4 ppm	RHC ppm	SO_2 ppm	NO_2 ppm	NH_3 ppm	TRS ppm	H_2S ppm	TSP $\mu g/m^3$	PM_{10} $\mu g/m^3$	$PM_{2.5}$ $\mu g/m^3$	PAH ng/m^3
mobile	Slave Lake (current)	Dec 2005 -Mar 2006	0.2	0.003	2.4	2.4	bd	0.001	0.012	bd	0.001	bd	18	13	5	8
	Calder Yards Edmonton[1]	Feb, Sept, Aug 2004 & Feb, Mar 2005	0.7	0.010	2.7	2.5	0.3	0.002	0.033	0.008	0.001	0.001	43	28	4	20
	Tolko High Prairie[1]	Dec 2005 -Mar 2006	0.2	0.018	2.0	1.9	bd	0.001	0.005	bd	0.001	bd	18	12	3	2.4
	Caroline [1]	Oct 05 & Jan, May, Jun 06	0.2	0.038	1.8	1.8	bd	0.002	0.004	0.003	0.001	0.001	79	49	6	1
	Girouxville[1]	Fall 2004, spring 2005, 2006	0.3	0.028	2.1	2.1	bd	0.001	0.001	0.013	0.002	0.001	21	15	2	bd
	Whitecourt[1]	Sep. 6 - 7, 2005	0.2	0.027	2.1	2.1	bd	0.001	0.002	0.084	0.001	0.001	28	16	2	1
Permanent Continuous Monitoring Stations																
urban	Calgary Central[2]	Dec 05 - Mar 06	0.5	0.009	2.1	n/a	n/a	n/a	0.030	n/a	n/a	n/a	n/a	21	5	n/a
	Edmonton Central[2]	Dec 05 - Mar 06	0.4	0.008	2.2	n/a	n/a	n/a	0.027	n/a	n/a	n/a	n/a	n/a	5	n/a
Rural	Fort Chipewyan[3]	Dec 05 - Mar 06	n/a	ND	n/a	n/a	n/a	bd	bd	n/a	n/a	n/a	n/a	n/a	2	n/a
	Fort McKay[3]	Dec 05 - Mar 06	n/a	ND	2.1	n/a	n/a	0.001	0.006	n/a	0.001	n/a	n/a	n/a	2.9	n/a
Industrial	Mannix[3]	Dec 05 - Mar 06	n/a	n/a	2.1	n/a	n/a	0.001	n/a	n/a	n/a	bd	n/a	n/a	n/a	n/a
	Mildred Lake[3]	Dec 05 - Mar 06	n/a	n/a	1.9	n/a	n/a	0.001	n/a	n/a	n/a	bd	n/a	n/a	n/a	n/a

Notes:

ppm – parts per million **$\mu g/m^3$** – micrograms per meter cubed **ng/m^3** – nanograms per meter cubed
bd – below detection limit **n/a** – parameter not monitored or data not available **ND** – no data

1 – Mobile survey conducted by Alberta Environment.
2 – Station operated by Alberta Environment.
3 – Station operated Airshed (Wood Buffalo Environmental Association)